

APPLICATION REVIEW

AND DETERMINATION OF CONTINUED COMPLIANCE

FOR:

NEVADA CEMENT COMPANY

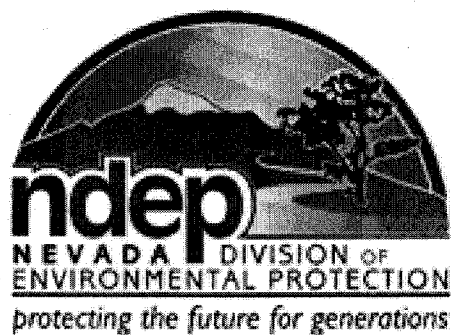
Lyon County, Nevada, HA – 76

Class I (Title V) Air Quality Operating Permit

AP3241-0387.02 (Revision)

FIN A0030

Air Cases #12AP0314

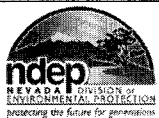


BY

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR POLLUTION CONTROL

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APRIL 2012



1.0 INTRODUCTION

On February 15, 2012, Nevada Cement Company (NCC) submitted an application for a minor revision to Class I Air Quality Operating Permit (AQOP) AP3241-0387.02. The Nevada Division of Environmental Protection - Bureau of Air Pollution Control (NBAPC) declared NCC's minor revision application administratively complete on February 29, 2012.

NCC's facility is located in western Nevada, approximately 3.5 miles northwest of Fernley, Nevada. NCC is located within Sections 10 and 11, T20N, R24E, in Hydrographic Area (HA) 76 (Fernley Area), which is currently designated as PSD triggered for SO₂ and currently unclassified for PM₁₀, NO_x, CO, O₃, and lead criteria pollutants, which have an ambient air quality standard.

A letter was sent out by the NBAPC on March 2, 2012 identifying a few items of technical information that were needed to continue processing the application. The NBAPC received the updated application materials on March 16, 2012.

The Standard Industrial Classification (SIC) code for this facility is 3241 (Cement, Hydraulic).

1.1 PROPOSED MODIFICATIONS

A description of the complete NCC operation was detailed with the Class I Air Quality Operating Permit that was issued November 2, 2010. This minor revision review will only address the proposed modifications.

1.1.1 System 06A

This alternative mode of operation proposes to use the #1 Raw Mill as a finishing mill. The proposed modification will give NCC the ability to operate System 06 part-time or full-time as a finish mill. Under this alt mode of operation, the feed bins for the #1 Raw Mill, which normally store limestone, clay, and iron, will have the ability to store clinker, gypsum, and pozzolan. When the #1 Raw Mill is used for making cement all three (clinker, gypsum, and pozzolan) would be used, and when the #1 Raw Mill is making Class N Pozzolan, only raw pozzolan would be used. The currently permitted allowable emissions from the #1 Raw Mill along with the three other sources affected by this mode of operation will not increase as a result of this proposed minor revision. Under the existing mode of operation, the airslide conveys the milled material to the 213 transport pump, which conveys the material pneumatically to the blend silos. The proposed new mode of operation has the airslide conveying the material to a new 207-10 Airslide, then to a new 213-10 Transport pump, and then onto the cement storage silos. All new equipment for material handling is completely enclosed and does not cause any new emissions inside the mill building.



1.0 INTRODUCTION (CONTINUED)

1.1 PROPOSED MODIFICATIONS (CONTINUED)

1.1.2 System 06B

This alternative mode of operation also proposes to use the #1 Raw Mill as a finishing mill, but it would function as a pre-grind mill in series with the #1 Finish Mill. Under this alt mode of operation, a new 2-way diverter valve would be installed under the 206 Mechanical Separator allowing material to be sent either to the existing 207 Airslide, or to a new 207-11 Airslide. The new airslide would convey pre-milled material to the inlet of the #1 Finish Mill for final grinding. The #1 Finish Mill circuit is not modified, except for having the inlet chute adapted to enclose the discharge of the 207-11 Airslide. During this new operation, the #1 Finish Mill would be fed by the #1 Raw Mill, instead of from its own feed bins. The currently permitted allowable emissions from the #1 Raw Mill along with the four other sources affected by this mode of operation will not increase as a result of this proposed minor revision.

1.1.3 System 12A

This alternative mode of operation proposes to use the #2 Raw Mill as a finishing mill. The proposed modification will give NCC the ability to operate System 12 part-time or full-time as a finish mill. Under this alt mode of operation, the feed bins for the #1 Raw Mill, which normally store limestone, clay, and iron, will have the ability to store clinker, gypsum, and pozzolan. When the #2 Raw Mill is used for making cement all three (clinker, gypsum, and pozzolan) would be used, and when the #2 Raw Mill is making Class N Pozzolan, only raw pozzolan would be used. The currently permitted allowable emissions from the #2 Raw Mill along with the four other sources affected by this mode of operation will not increase as a result of this proposed minor revision. Under the existing mode of operation, the airslide conveys the milled material to the 213 transport pump, which conveys the material pneumatically to the blend silos. The proposed new mode of operation has the airslide conveying the material to a new 1917-10 Airslide, then to a new 213-10 Transport pump, and then onto the cement storage silos. All new equipment for material handling is completely enclosed and does not cause any new emissions inside the mill building.

1.1.4 Other Systems Affected by Minor Revision

For System 06A: System 21 – Cement Bulk Loading, System 25(b) – Rail Unloading/Transfer, and System 26 – Fly Ash Bulk Loading.

For System 06B: System 11 - #1 Finish Mill Operations, System 21 – Cement Bulk Loading, System 25(b) – Rail Unloading/Transfer, and System 26 – Fly Ash Bulk Loading.

For System 12A: System 13 - #2 Raw Mill System 21 – Cement Bulk Loading, System 25(b) – Rail Unloading/Transfer, and System 26 – Fly Ash Bulk Loading.



2.0 APPLICABLE REGULATIONS

2.1 GENERALLY APPLICABLE REQUIREMENTS

Of the four categories of regulations governing emissions of air pollutants, there are many generally applicable requirements that apply to stationary sources and emission units located at a stationary source. A comprehensive summary of all the generally applicable permit requirements is contained in Sections I through V of the proposed operating permit provided in Appendix 1.

2.2 SPECIFIC APPLICABLE REQUIREMENTS

A summary of the specific applicable requirements for Systems 06A/06B (S2.017 – S2.022), System 11 (S2.043 – S2.049), System 12A (S2.050 – S2.054), System 13 (S2.055), System 21 (S2.086 – S2.093), System 25(b) (S2.104 – S2.105) and System 26 (S2.106) are contained in Table 2.2 - 1.

TABLE 2.2 - 1 - List of Emission Units and Associated Specific Applicable Standards							
EU #	Unit Description	Applicable Standards					
		NAC (445B)	SIP (NAC 445B)	NSPS (Part 60)	NESHAPS (Parts 61, 63)	PSD (Part 52)	Acid Rain (Parts 72-78)
S2.017 – S2.022	System 06A	.3405, .305, .22017, .2203, .22047, .252	.22017, .2203, .22047, .252	N/A	N/A	N/A	N/A
S2.017 – S2.022	System 06B	.3405, .305, .22017, .2203, .22047, .252	.22017, .2203, .22047, .252	N/A	N/A	N/A	N/A
S2.043 – S2.049	System 11	.3405, .305, .22017, .22033, .252	.22017, .22033, .252	N/A	N/A	N/A	N/A
S2.050 – S2.054	System 12A	.3405, .305, .22017, .2203, .22047, .252	.22017, .2203, .22047, .252	N/A	N/A	N/A	N/A
S2.055	System 13	.3405, .305, .22017, .22033, .252	.22017, .22033, .252	N/A	N/A	N/A	N/A
S2.086 – S2.093	System 21	.3405, .305, .22017, .22033, .252	.22017, .22033, .252	N/A	N/A	N/A	N/A
S2.104 – S2.105	System 25(b)	.3405, .305, .22017, .22033, .252	.22017, .22033, .252	N/A	N/A	N/A	N/A
S2.106	System 26	.3405, .305, .22017, .22033, .252	.22017, .22033, .252	N/A	N/A	N/A	N/A



2.0 APPLICABLE REGULATIONS (continued)

2.3 NEVADA REVISED STATUTES

The Nevada Revised Statutes (NRS) are the current codified laws of the State of Nevada. The NRS is the statutory authority for the adoption and implementation of administrative regulations. The statutes relating to the control of air pollution are contained in Title 40, Public Health and Safety, Chapter 445B, Air Pollution, NRS 445B.100 through NRS 445B.640. The NRS specifies that the State Environmental Commission is the governing body given the power to adopt administrative regulations. Because the NRS is the enabling statutory authority, very few specific requirements are contained in the statutes. Rather, the NRS provides, generally, broad authority for the adoption and implementation of air pollution control regulations. NCC will be subject to the NRS and need to comply with all applicable regulations under the NRS. The NRS may be viewed at the following website: <http://www.leg.state.nv.us/NRS/Index.cfm>

2.4 NEVADA ADMINISTRATIVE CODE

The Nevada Administrative Code (NAC) contains the regulations that have been adopted by the State Environmental Commission (SEC), pursuant to the authority granted by the Nevada Revised Statutes (NRS), relating to the control of air pollution. The NAC requires that, where State regulations are more stringent in comparison to Federal regulations, the State regulations are applicable. The NAC sets forth, by rule, maximum emission standards for visible emissions (opacity), PM₁₀ (particulate matter less than 10 microns in diameter) and sulfur emitting processes. Other requirements are established for incinerators, storage tanks, odors and maximum concentrations of criteria air pollutants in the ambient air. Other NAC regulations specify the requirements for applying for and method of processing applications for operating permits. All the equipment considered in this application must meet, at a minimum, the applicable standards and requirements set forth in the NAC, specifically, the emission standards contained in NAC 445B.22027 through 445B.22033 for particulate matter, 445B.2204 through 445B.22047 for sulfur emissions, 445B.22017 for opacity, and the Nevada Ambient Air Quality Standards as set forth in NAC 445B.310 through 445B.311. The NAC may be viewed at the following website: <http://www.leg.state.nv.us/NAC/CHAPTERS.HTM>

2.5 NEVADA APPLICABLE STATE IMPLEMENTATION PLAN

The Applicable State Implementation Plan (ASIP) is a document that is prepared by a state or local air regulatory agency and required to be submitted to the U.S. EPA for approval. Title I of the Clean Air Act is the statutory authority for the U.S. EPA regulations that require a State to submit a ASIP. The contents of the ASIP are intended to show how a state, through the implementation and enforcement of the regulations contained in the ASIP, will either show how attainment of the national ambient air quality standards (NAAQS) will be achieved or how a state will continue to maintain compliance with the NAAQS.

2.6 CODE OF FEDERAL REGULATIONS

The Code of Federal Regulations (CFR) are regulations adopted by the U.S. EPA and published in the Federal Register pursuant to the authority granted by Congress in the Clean Air Act. The CFR addresses multiple aspects, including but not limited to, permitting requirements, performance standards, testing methods, and monitoring requirements. The CFRs may be viewed online at the following website: <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>



2.0 APPLICABLE REGULATIONS (continued)

2.6.1 NEW SOURCE PERFORMANCE STANDARDS

Section 111 of the Clean Air Act, "Standards of Performance of New Stationary Sources," (NSPS) requires EPA to establish federal emission standards for source categories which cause or contribute significantly to air pollution. Each NSPS defines the facilities subject to these requirements and prescribes emission limits for specified pollutants, compliance requirements, monitoring requirements, and test methods and procedures. These standards are intended to promote use of the best air pollution control technologies, taking into account the cost of such technology and any other non-air quality, health, and environmental impact and energy requirements. These standards apply to sources which have been constructed or modified since the proposal of the standard. Since December 23, 1971, the Administrator has promulgated 88 such standards and associated test methods. These standards can be found in the CFR at Title 40 (Protection of Environment), Part 60 (Standards of Performance for New Stationary Sources).

Generally, state and local air pollution control agencies are responsible for implementation, compliance assistance, and enforcement of the NSPS. EPA retains concurrent enforcement authority and is also available to provide technical assistance when a state or local agency seeks help. EPA also retains a few of the NSPS responsibilities such as the ability to approve alternative monitoring methods to maintain a minimum level of national consistency.

▪ **Subpart F – Standards of Performance for Portland Cement Plants**, specifies standards for particulate matter for any facility, which commences construction or modification after August 17, 1971. The provisions of this subpart are applicable to the following facilities in portland cement plants: Kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems, and cement kiln dust operations. Since the systems included in this minor modification are already established and not increasing emissions they are not being considered as modified units, therefore the provisions of this Subpart F do not apply to this permitting action.

▪ **Subpart Y – Standards of Performance for Coal Preparation Plants**, specifies standards for particulate matter for any facility, which commences construction or modification after October 24, 1974. The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 MG (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems. NCC's Systems 27(a) through (i) are involved in coal/coke handling and storage operations. The provisions of this subpart do not apply to the Systems included in this minor modification.



2.0 APPLICABLE REGULATIONS (continued)

2.6.2 FEDERAL NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

NESHAP for hazardous air pollutants (HAPs) are established in the CFR pursuant to Section 112 of the Clean Air Act Amendments of 1990. These standards regulate air pollutants that are believed to be detrimental to human health. The NESHAP program applies to all sources, both existing and new. These standards are codified in Title 40 CFR Parts 61 and 63.

Part 61, which predates the Clean Air Act Amendments of 1990, includes specific standards, reporting and recordkeeping requirements, and test methods for the initial eight hazardous air pollutants: asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride. The regulations covering these eight hazardous air pollutants focused on health-based considerations. NESHAPs were established for certain operations that commonly emit the eight hazardous air pollutants.

Other substances were included for consideration due to the serious health effects, including cancer, which may occur from ambient air exposure to those substances. However, no specific restrictions were placed on facilities that used or released these compounds.

Under the Clean Air Act Amendments of 1990, Congress greatly expanded the Air Toxics program, creating a list of 189 substances to be regulated as hazardous air pollutants. Rather than regulating individual pollutants by establishing health-based standards, the new Air Toxics program granted EPA the authority to regulate specific industrial major source categories with NESHAPs based on maximum achievable control technology (MACT) for each source category. Thus, a number of NESHAPs have been established to regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants.

The standards in 40 CFR Part 63 are independent of the NESHAPs contained in 40 CFR Part 61 which remain in effect until they are amended, if appropriate, and added to this part. More information on NESHAPs can be found at the EPA Unified Air Toxics Website (<http://www.epa.gov/ttn/atw/>).

NESHAPs may cover both major sources and area sources in a given source category. Major sources are defined as those facilities emitting, or having the potential to emit, 10 tons per year or more of one Hazardous Air Pollutant (HAP) or 25 tons per year or more of multiple HAPs. Major sources are required to comply with MACT standards. Area Sources are defined as those facilities that are not major sources. NCC is not a major source with respect to HAPs.

■ **Subpart LLL – Standards of Performance for the Portland Cement Manufacturing Industry** (updated September 9, 2010), specifies standards for particulate matter, dioxin/furans, Mercury and total hydrocarbons for each new and existing Portland cement plant, which is either a Major or Area source of HAPS. Prior to the September 9, 2010 update only NCC's Kilns (Systems 09, 09A, 15, and 15A) were subject to the provisions of this subpart. After this update, which became effective November 8, 2010, the following units will be subject to this subpart: Clinker Coolers (Systems 10 and 16), Raw Mills (Systems 06/A/B, 12, and 13), Finish Mills (System 06B, 11, 12A, 18 and 19), Raw Material Storage (System 05), Conveying System Transfer Points (Systems 02 – 06B, 09/09A, 11 – 12A, 15 – 16, 19, 27(a) – 27(i), 28(b) – 29(a)), Bagging and Bulk Loading/Unloading (Systems 21 – 27(a)), and must comply with all requirements by September 9, 2013. This minor modification is not including these Subpart LLL requirements, because the facility will be required to submit a renewal application prior to the compliance deadline.



2.0 APPLICABLE REGULATIONS (continued)

2.6.3 PREVENTION OF SIGNIFICANT DETERIORATION

The Prevention of Significant Deterioration (PSD) permitting program is a Clean Air Act permitting program for new and modified major stationary sources of air pollution. Implementation of the federal PSD regulations is delegated to the State of Nevada by U.S. EPA and these regulations are contained at 40 CFR Part 52.21. Therefore, NBAPC implements the federal PSD regulations directly. These regulations specify federally required permitting procedures for each "major stationary source". The PSD regulations define a "stationary source" as *"any building, structure, facility, or installation which emits or may emit any air pollutant subject to regulation under the Act."* A "building structure facility or installation" is defined as *"all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same 'Major Group' (i.e., which have the same first two digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement."*

"Major" is defined as the potential to emit of a stationary source, which equals or exceeds a specified threshold (in tons per year) of any air pollutant regulated under the Clean Air Act (40 CFR 52.21(b)(1)). The first threshold is for a stationary source that emits or has the potential to emit 100 tons per year or more of any regulated NSR pollutant and is defined as one of 28 specific categories of sources (see 40 CFR 52.21(b)(1)(i)(a)). The other applicability threshold is for any other stationary source that emits or has the potential to emit 250 tons per year of any regulated NSR pollutant (see 40 CFR 52.21(b)(1)(i)(b)).

The SIC code for this facility is 3241. Therefore, the major SIC grouping is 32, which is identified as "Stone, Clay Glass, and Concrete Products" in the SIC manual. The NCC facility located in Fernley is categorized as a portland cement plant under the **28 category sources** within PSD applicability. Therefore, major source status is classified at the **100 tons per year** emission threshold for any pollutant regulated under the Act.

The existing facility permit defines the NCC facility as an existing major stationary source for PSD purposes, because emissions of all criteria pollutants are above the 100 tons per year threshold (refer to the **Section 3.0** of this review). The proposed minor modification application will not result in any increases in applicable criteria pollutant in excess of the Significant Emission Thresholds [re: 40 CFR 52.21(b)(23)(i)] for PSD/NSR review purposes (refer to the **Table 3-1** of this review). Therefore, NCC's minor modification permit application is minor for PSD and will not be required to undergo any further PSD/NSR review at this time.

2.6.4 COMPLIANCE ASSURANCE MONITORING (CAM) – 40 CFR Part 64

Compliance Assurance Monitoring (CAM) plans are required for major sources required to obtain Title V (Part 70 or 71) permits. The CAM rule was signed on October 3, 1997 and came into effect on November 21, 1997. The U.S. EPA developed the CAM rule to focus on monitoring of certain operating parameters to ensure compliance with emission limitations in-between scheduled source tests. CAM requirements apply to stationary sources that: (1) are equipped with post-process pollutant control devices; (2) have pre-control device emissions equal to or greater than 100% of the major source threshold for a pollutant; and (3) are subject to the Title V permit program.

The NBAPC has determined that NCC is not required to submit a CAM plan at this time.



3.0 EMISSIONS INVENTORY

3.1 PROPOSED EMISSIONS

The facility-wide emissions inventory summary for NCC, is presented in Table 3-1. As can be seen, the PTE for PM₁₀, SO₂, NO_x, CO and VOC's (regulated pollutants) indicate that NCC is an existing major stationary source (Title V), because the PTE for all regulated pollutants is over 100 tons per year. The major source threshold does not apply to particulate > 10 microns in diameter (NAC 445B.094.1.(d)(2)(i)). PM_{2.5} emissions are not included in the inventory, nor are PM_{2.5} limits set forth in the draft Permit, because the NBAPC has not yet adopted PM_{2.5} into the Nevada Administrative Code.

The most recent emissions inventory shows that NCC will qualify as an *area source* of HAPs, with the PTE for any individual HAP < 10 tpy, and combined HAPs < 25 tpy, as indicated in NCC's minor modification application. Primary HAPs are HCN, VOC-HAPs, and Hg.

Table 3-1
Nevada Cement Company
Changes to Class I Facility Wide Potential to Emit (PTE)

System	Annual Emission (tons/yr)					
	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Facility Wide PTE - Class I AP3241-0387.02 (Nov 2, 2010)	377.80	357.50	376.300	4184.80	329.50	146.30
Facility Wide PTE - Class I AP3241-0387.02 (Minor Mod)	377.80	357.50	376.300	4184.80	329.50	146.30
Total Facility Wide PTE (Minor Mod)	377.80	357.50	376.30	4184.80	329.50	146.30
Net Change	0	0	0	0	0	0
NSR/PSD Review Thresholds	15	15	40	40	40	100
Compliance with NSR/PSD Criteria (Y/N?)	Y	Y	Y	Y	Y	Y

4.0 AMBIENT AIR IMPACT ANALYSIS

Air dispersion modeling was not performed since there was no increase in emissions at the facility.



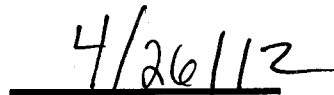
5.0 CONCLUSIONS / RECOMMENDATIONS

Based on the above review and supporting data and analyses, operation of NCC, under the draft permit conditions, will not result in violations of any applicable ambient air quality standards. The NBAPC has determined that this minor modification will not result in a significant change in air quality at any location where the public is present on a regular basis. This determination is based on the fact that this minor modification will not result in an increase in emissions. Because this modification will not result in a significant change in the air quality, pursuant to NAC 445B.3395(8)(c) the provisions of NAC 445B.3395(6) and NAC 445B.3395(7), public notice provisions, do not apply. Therefore, I recommend that the draft facility-wide operating permit be formally issued, with those applicable requirements, conditions, and restrictions contained therein.


Appendix 1 - NBAPC Draft Class I Air Quality Operating Permit AP3241-0387.02



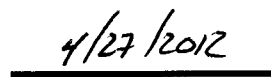
Sarah Smith, Staff II, Associate Engineer



Date



Jeffrey Kinder, P.E.
Permitting Supervisor
Bureau of Air Pollution Control



Date

Appendix 1

**NBAPC Draft Class I Air
Quality Operating Permit**

Nevada Cement Company

AP3241-0387.02

April 2012